Arlon® 51N

Epoxy; Epoxide

Arlon-MED

Message:

51N is a non-DICY multifunctional epoxy low-flow prepreg system designed to provide high reliability through lead-free solder operations. The high decomposition temperature and high thermal stability of this material is ideal for use in complex rigid-flex fabrication and assembly operations where minimum resin flow is required.

General Information			
Features	Bondability		
	Good Adhesion		
	Good Electrical Properties		
	Low (to None) Lead Content		
	Low Flow		
Uses	Bonding		
	Electrical/Electronic Applications		
RoHS Compliance	RoHS Compliant		
Forms	Liquid		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.35	g/cm³	ASTM D792A
Water Absorption (24 hr)	0.15	%	Internal Method
Decomposition Temperature			Internal Method
5%	368	°C	
Initial	354	°C	
Peel Strength			Internal Method
-- [1]	1.2	kN/m	
-- [2]	1.1	kN/m	
-- [3]	1.6	kN/m	
Expansion Rate (50 to 260°C) [4]	2.6	%	Internal Method
T260	> 1.0	hr	Internal Method
T288	> 30.0	min	Internal Method
T300	15.0	min	Internal Method
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	17900	MPa	Internal Method
Tensile Strength	44.8	MPa	Internal Method
Flexural Strength	579	MPa	Internal Method
Thermal	**Nominal Value**	**Unit**	**Test Method**
Glass Transition Temperature			Internal Method
--	166	°C	

-- [5]	170	°C	
CLTE - Flow			
-- [6]	1.3E-5 to 1.5E-5	cm/cm/°C	Internal Method
< 166°C [7]	4.4E-5	cm/cm/°C	Internal Method
> 166°C [8]	2.5E-4	cm/cm/°C	Internal Method
Thermal Conductivity (100°C)	0.25	W/m/K	ASTM E1461
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity			Internal Method
-- [9]	4.0E+12	ohms	
-- [10]	2.9E+13	ohms	
Volume Resistivity			Internal Method
-- [11]	3.3E+6	ohms·cm	
-- [12]	2.6E+13	ohms·cm	
Dielectric Strength	39	kV/mm	Internal Method
Dielectric Constant			Internal Method
1 MHz	4.20		
1.00 GHz	4.10		
Dissipation Factor			Internal Method
1 MHz	0.020		
1.00 GHz	0.020		
Arc Resistance	> 120	sec	Internal Method
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating	V-0		UL 94

NOTE	
1.	At Elevated Temperatures
2.	After Process Solutions
3.	After Thermal Stress
4.	Z-axis
5.	TMA
6.	Y-axis
7.	Z-axis
8.	Z-axis
9.	E24/125
10.	C96/35/90
11.	E24/125
12.	C96/35/90

Recommended distributors for this material

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